

AMENDMENTS TO THE CLAIMS:

Please cancel claims 1-32, without prejudice or disclaimer of their subject matter, and add new claims 33-67 as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.-32. (Canceled)

33. (New) A magnetic sensor-type antenna, comprising:

a magnetic core and a coil wound around the magnetic core for receiving a radio wave, the antenna being disposed in a housing, and end portions of the magnetic core being bent in a direction away from the housing or a metal part of the housing.

34. (New) The magnetic sensor-type antenna according to claim 33, wherein the magnetic core further has bent tip end portions.

35. (New) The magnetic sensor-type antenna according to claim 33, wherein the magnetic core has a plurality of branched end portions, at least one of which is bent in a direction away from the housing or a metal part of the housing.

36. (New) The magnetic sensor-type antenna according to claim 35, wherein at least one of the plurality of end portions is bent in a direction away from the housing or a metal part of the housing, and at least one of the remaining end portions being bent in a different direction.

37. (New) The magnetic sensor-type antenna according to claim 33, wherein end portions of the magnetic core are shaped along an inner wall of the housing.

38. (New) The magnetic sensor-type antenna according to claim 33, wherein end portions of the magnetic core are inclined with respect to a center portion of the magnetic core.

39. (New) The magnetic sensor-type antenna according to claim 33, wherein end portions of the magnetic core are inclined with respect to a center portion of the magnetic core, and tip end portions of the magnetic core being bent such that the tip end portions are in parallel with the center portion of the magnetic core.

40. (New) A magnetic sensor-type antenna, comprising:
a magnetic main path member comprising a coil wound around a magnetic core for receiving a magnetic field component of an electromagnetic wave, the antenna further comprising a magnetic sub-path member having a gap mounted to part of the magnetic core, the magnetic core being including a single thin ribbon or laminated thin ribbons.

41. (New) A magnetic sensor-type antenna, comprising:
a magnetic main path member comprising a coil wound around a magnetic core for receiving a magnetic field component of an electromagnetic wave, the antenna further comprising a magnetic sub-path member having a gap mounted to part of the magnetic core, the magnetic core including a ferrite plate.

42. (New) The magnetic sensor-type antenna according to claim 40 or 41, wherein the magnetic sensor-type antenna comprises a gap of 0.025-3 mm between one end of the magnetic sub-path member and the magnetic core.

43. (New) The magnetic sensor-type antenna according to claim 40 or 41, wherein end portions of both magnetic sub-path members are positioned in a center portion of the magnetic core, with a gap of 0.025-3 mm between the ends of both magnetic sub-path members.

44. (New) A magnetic sensor-type antenna for receiving a radio wave, the antenna comprising:

a magnetic main path member further comprising a magnetic core and a coil wound around the magnetic core; and

a pair of magnetic sub-path members attached to the magnetic core, the magnetic sub-path member being made of a material having a smaller specific permeability than that of the magnetic core.

45. (New) The magnetic sensor-type antenna according to claim 44, wherein the magnetic sub-path member has a specific permeability of 2 or more, lower than that of the magnetic main path member.

46. (New) The magnetic sensor-type antenna according to any one of claims 33, 40, 41, or 44, wherein the magnetic sensor-type antenna is disposed in a housing, and further wherein

end portions of the magnetic core are bent in a direction away from the housing or a metal part of the housing.

47. (New) A magnetic sensor-type antenna for receiving a radio wave, the antenna comprising:

a magnetic main path member further comprising a magnetic core and a coil wound around the magnetic core; and

a magnetic sub-path member attached to the magnetic core,

the magnetic sub-path member being including a first magnetic sub-path member, and a second magnetic sub-path member sandwiched by the first magnetic sub-path member and the magnetic core without an air gap, and

the second magnetic sub-path member having a smaller specific permeability than that of the first magnetic sub-path member.

48. (New) A magnetic sensor-type antenna according to claim 44 or 47, wherein the magnetic sub-path member is formed by a soft composite comprising a soft magnetic ferrite or metal powder or soft magnetic metal flake, and a resin or a rubber.

49. (New) The magnetic sensor-type antenna according to claim 44 or 47, wherein the magnetic sub-path member is formed by application of a paint containing soft magnetic powder to the magnetic main path member.

50. (New) The magnetic sensor-type antenna according to any one of claims 33, 40, 41, 44, or 47, wherein the magnetic core comprises a plurality of metal wires.

51. (New) The magnetic sensor-type antenna according to any one of claims 33, 40, 41, 44, or 47, wherein the magnetic core comprises a laminate of a plurality of thin ribbons.

52. (New) The magnetic sensor-type antenna according to claim 44, wherein the magnetic core and the first magnetic sub-path member are laminates of thin, soft magnetic metal ribbons.

53. (New) The magnetic sensor-type antenna according to any one of claims 40, 41, 44, or 47, wherein the magnetic core is a laminate of a plurality of thin ribbons, and further wherein the magnetic sub-path member is disposed on a stratum-appearing surface of the magnetic main path member.

54. (New) The magnetic sensor-type antenna according to any one of claims 40, 41, 44, or 47, wherein the magnetic sub-path member is a laminate of a plurality of thin ribbons, and further wherein the magnetic main path member and the magnetic sub-path member are aligned in the same lamination direction.

55. (New) A magnetic sensor-type antenna, comprising:
a magnetic core and a coil wound around the magnetic core for receiving a radio wave,
wherein the antenna comprises a case in which the magnetic core and the coil are disposed, and

further wherein the case has a specific permeability of 2 or more, smaller than that of the magnetic core.

56. (New) The magnetic sensor-type antenna according to claim 55, wherein the magnetic core has a body portion disposed in the case and end portions exposed from the case.

57. (New) The magnetic sensor-type antenna according to claim 55, wherein the case including a soft magnetic case portion for receiving a body portion of the magnetic core, and end portions extending from the soft magnetic case portion for receiving end portions of the magnetic core,

wherein the soft magnetic case portion has a specific permeability of 2 or more, smaller than that of the magnetic core,

and further wherein end portions of the case have a smaller specific permeability than that of the soft magnetic case portion.

58. (New) The magnetic sensor-type antenna according to claim 55, wherein the case including a soft magnetic case portion for receiving a body portion of the magnetic core, and non-magnetic case portions extending from the soft magnetic case portion for receiving end portions of the magnetic core,

wherein the soft magnetic case portion has a specific permeability of 2 or more, smaller than that of the magnetic core.

59. (New) The magnetic sensor-type antenna according to claim 55, wherein the magnetic main path member comprising the magnetic core and the coil wound around the magnetic core is fit in the case.

60. (New) The magnetic sensor-type antenna according to claim 55, wherein the case is injection-molded.

61. (New) The magnetic sensor-type antenna according to claim 55, wherein the case is obtained by placement of the magnetic main path member comprising the magnetic core and the coil wound around the magnetic core into a curable slurry charged into a mold and subsequently cured.

62. (New) The magnetic sensor-type antenna according to claim 47 or 55, wherein the magnetic sensor-type antenna is disposed in a metal housing, and further wherein end portions of the magnetic core are bent in a direction away from the metal housing.

63. (New) The magnetic sensor-type antenna according to claim 47 or 55, wherein the magnetic sensor-type antenna is disposed in a metal or non-metal housing together with other metal parts than the antenna, and further wherein end portions of the magnetic core are bent in a direction away from the other metal parts.

64. (New) The magnetic sensor-type antenna according to claim 62, wherein the tip end portions of the magnetic core are substantially in parallel with a bottom surface of the metal or non-metal housing.

65. (New) A radio-controlled timepiece, comprising the magnetic sensor-type antenna recited in any one of claims 33, 40, 41, 44, 47, or 55, in a metal housing.

66. (New) A keyless entry system, comprising a transmitter and a receiver, at least one of the transmitter and the receiver containing the magnetic sensor-type antenna recited in any one of claims 33, 40, 41, 44, 47, or 55.

67. (New) An RFID system, comprising the magnetic sensor-type antenna recited in any one of claims 33, 40, 41, 44, 47, or 55, in an RFID tag.